

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number
WO 2004/007028 A1

(51) International Patent Classification⁷: **A62D 3/00**

(21) International Application Number:
PCT/CA2002/001799

(22) International Filing Date:
27 November 2002 (27.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/395,316 12 July 2002 (12.07.2002) US
60/404,147 19 August 2002 (19.08.2002) US

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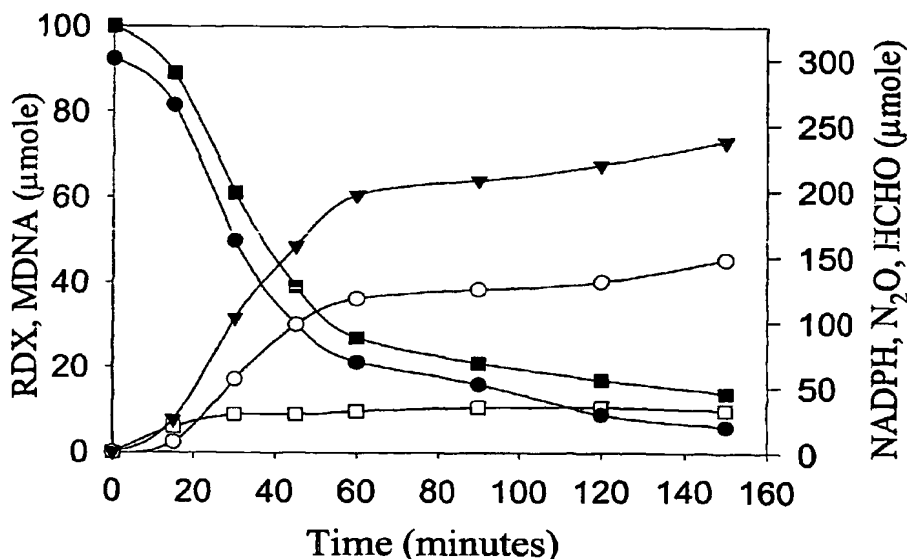
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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: **DEGRADATION OF CYCLIC NITRAMINES**



(57) Abstract: The invention relates to a process for degradation of nitramines. The explosives RDX, HMX, CL20 and tetryl are exemplary nitramines that may be degraded according to the invention. These nitramines may be attacked chemically, biochemically or biologically. The invention may be used to degrade such explosive compounds that may be present in soil. Cyclic nitramines may be attacked at bonds so as to cause ring cleavage, which in the presence of water can lead to hydrolytic decomposition and mineralization. To prevent the decomposition reaction from undergoing sequential reduction to the corresponding nitroso derivative (nitrosation being reduction of -NO₂ to -NO), two routes may be taken: (a) attack on an -N-NO₂ bond (denitration) followed by hydration or (b) attack on a CH₂ bond (α-hydroxylation) to form unstable carbinol prior to cleavage and decomposition. The invention may be used to remediate soil and water contaminated with these explosives.



ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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Published:

— *with international search report*

INTERNATIONAL SEARCH REPORT

International Application No

PCT/02/01799

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A62D3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
IPC 7 A62D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 316 408 A (SECR DEFENCE) 25 February 1998 (1998-02-25) claims ---	1-3, 5-10, 13-16
X	DE 43 06 844 A (HEILMANN HARRO ; HESSELMANN ROLF (DE)) 1 September 1994 (1994-09-01) claims ---	1-4, 11
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Date of the actual completion of the international search

3 February 2003

Date of mailing of the international search report

10/02/2003

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/02/01799

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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